What is claimed is:

1. A texture processor comprising:
a texture cache configured to store textures;
a controller configured to determine a texture address corresponding to a requested texture and read a texture, among the stored textures, corresponding to the texture address from the texture cache;
a format converter configured to convert a format of the read texture into another format, based on a degree of texture precision required by a graphics processing unit (GPU); and
a texture filter configured to perform texture filtering using the read texture having its format converted into the another format.

2. The texture processor of claim 1, wherein the format converter is configured to determine an output format of the read texture based on the degree of texture precision required by the GPU, and output the read texture in the determined output format.

3. The texture processor of claim 2, wherein the format converter is configured to determine the degree of texture precision required by the GPU based on at least one of a texture filtering mode and a type of an application programming interface (API) used in the GPU, and determine whether the format of the read texture is to be converted, based on a result of the determining of the degree of texture precision.

4. The texture processor of claim 3, wherein the format converter is configured to convert the format of the read texture into the another format when the texture filtering mode is not a preset mode that requires that the format of the read texture be maintained and the type of the API is not a preset type that requires a high degree of precision.

5. The texture processor of claim 3, wherein the format converter is configured to determine the degree of texture precision required by the GPU by further taking into account a level of rendering that the GPU is requested to perform.

6. The texture processor of claim 5, wherein the format converter is configured to convert the format of the read texture into the another format when the texture filtering mode is not a preset mode that requires that the format of the read texture be maintained, the type of the API is not a preset mode that requires a high degree of precision, and the level of rendering that the GPU is requested to perform is less than or equal to a predetermined level.

7. The texture processor of claim 5, wherein the level of rendering that the GPU is requested to perform is determined by a user through an application linked to the GPU or is determined by the GPU based on hardware resources of the GPU.

8. The texture processor of claim 1, wherein the texture filter is configured to perform texture filtering by driving a filter corresponding to the converted format.

9. The texture processor of claim 1, further comprising a decompressor configured to decompress the read texture, and wherein the format converter is configured to convert a format of the decompressed texture into another format based on the degree of texture precision required by the GPU.

10. The texture processor of claim 1, further comprising a decompressor configured to decompress the read texture having its format converted into the another format, and wherein the texture filter is configured to perform texture filtering using the decompressed texture.

11. A texture processing method comprising:
determining a texture address corresponding to a requested texture;
reading a texture corresponding to the texture address from a texture cache;
converting a format of the read texture into another format, based on a degree of texture precision required by a graphics processing unit (GPU); and
performing texture filtering using the read texture having its format converted into the another format.

12. The texture processing method of claim 11, wherein the converting of the format of the read texture comprises:
determining an output format of the read texture based on the degree of texture precision required by the GPU; and
outputting the read texture in the determined output format.

13. The texture processing method of claim 12, wherein the determining of the output format of the texture comprises:
determining the degree of texture precision required by the GPU based on at least one of a texture filtering mode and a type of an application programming interface (API) used in the GPU; and
determining whether the format of the read texture is to be converted, based on a result of the determining of the degree of texture precision.

14. The texture processing method of claim 13, wherein the determining of whether the format of the read texture is to be converted comprises converting the format of the read texture into the another format when the texture filtering mode is not a preset mode that requires that the format of the read texture be maintained and the type of the API is not a preset type that requires a high degree of precision.

15. The texture processing method of claim 13, wherein the determining of the degree of texture precision comprises determining the degree of texture precision required by the GPU by further taking into account a level of rendering that the GPU is requested to perform.

16. The texture processing method of claim 15, wherein the determining of whether the format of the read texture is to be converted comprises converting the format of the read texture into the another format when the texture filtering mode is not a preset mode that requires that a format of a texture be maintained, the type of the API is not a preset mode that requires a high degree of precision, and the level of rendering that the GPU is requested to perform is less than or equal to a predetermined level.

17. The texture processing method of claim 11, wherein the performing of the texture filtering comprises performing texture filtering by driving a filter corresponding to the converted format.

18. The texture processing method of claim 11, further comprising decompressing the read texture, and wherein the converting of the format of the read texture comprises converting a format of the decompressed texture based on the degree of texture precision required by the GPU.

19. The texture processing method of claim 11, further comprising decompressing the read texture having its format converted into the another format, and wherein the performing of the texture filtering comprises performing texture filtering using the decompressed texture.